State of Texas

Department of Information Resources

Attachment 2.3

Version 2.1

Skill Set Descriptions

Texas Private Cloud, Computing, and

Data Center Facility Services

DIR-TPC-MSA-432

Table of Contents

1   Introduction

This Attachment sets forth the skill set descriptions that are applicable in defining the labor categories as set out in the Rate Card provided in **Attachment 2.1 Pricing and Volumes**.

The content of this Attachment is to be used as a guideline and is not intended to be a checklist of skills, experience and education. These qualification guidelines represent the skills, experience and education typically possessed by the individuals that are grouped in these categories, but every individual may not possess every attribute. UNDER NO CIRCUMSTANCES SHOULD YEARS OF EXPERIENCE BE USED AS THE SOLE CRITERIA.

Except as otherwise specified in this Attachment or as mutually agreed by the Parties, all skill set descriptions pertaining to the Labor Category (LC) are defined within this Attachment.

The Respondent shall follow the instructions contained within these and all other RFO and Agreement documents, including all Exhibits.

All capitalized terms in this **Attachment 2.3 Skill Set Descriptions** shall have the same meanings given them in **Exhibit 1**. All **Exhibit 2 Financial Provisions** documents hereto are incorporated by reference herein.

2   Skill Sets by Labor Category

The following table shows the skill set descriptions and their corresponding labor category that is used for detailed pricing in the applicable pricing templates document by the Successful Respondent:

	Job Title	Labor Category
1.	Operations	1
2.	Facilities Administration	1
3.	Technical Specialist	1
4.	Junior Test Analyst	1
5.	Training Specialist	1
6.	Technical Specialist Programming	1
7.	Associate Systems Engineer	2
8.	Documentation Specialist	2
9.	Test Analyst	2
10.	Associate Business Systems Analyst	2
11.	System Administration	3
12.	Systems Engineer	3
13.	Data/Math Modeler	3
14.	Infrastructure Administration	3
15.	Performance / Automation Test Analyst	3
16.	Programmer Associate	3
17.	Project Management Support	4
18.	Network Administration	4
19.	Advanced Systems Engineer	4
20.	Business Systems Analyst	4
21.	Associate Business Process Engineer	4
22.	Project Manager I / Test Leads	4
23.	Database Administrator	4
24.	Database Analyst	4
25.	Programmer	4
26.	Solution Architect	5
27.	Senior Systems Engineer	5
28.	Project Manager II / Test Managers	5

	Job Title	Labor Category
29.	Business Process Engineer	5
30.	Web Master	5
31.	Web Security Administrator	5
32.	Web Software Developer	5
33.	Senior Business Systems Analyst	6
34.	Infrastructure Architect	6
35.	Project Manager III/ Test Program Manager	7
36.	Senior Business Process Engineer	7
37.	Data Analyst	7
38.	Application Architect	8
39.	Senior Manager	8
40.	Senior Web Architect	8
41.	Data Engineer	8
42.	Senior Application Architect	9
43.	Creative Director	9
44.	Data Scientist	9
45.	Business Consultant	10
46.	Business Intelligence Analyst (BIA)	10
47.	Senior Business Consultant	11

3   Skill Set Descriptions

3.1   Operations

3.1.1   Job Description

1. Gathers and interprets complex data;
2. Prepares presentations;
3. Communicates statistical or technical data within the organization;
4. Moderate contact with others outside the organization;
5. Develops and maintains data;
6. Administers policies/procedures;
7. Assumes operational assignments;

3.1.2   Specific Services Performed

1. Asset Management
   a. Conducts physical inventories of equipment;
   b. Conducts and participates in audits to determine the accuracy of inventories and records;
   c. Special billing reports;
2. Business Office;
   a. Performs asset management for hardware and software;
   b. Process orders for Change/Add/Move requests;
   c. Procure hardware and software;
   d. Research and provide price quotes for hardware and software;
3. Communications Technology;
   a. Oversee and/or perform complex or sensitive service orders;

b. Serve as second level escalation for major, sensitive or recurring voice troubles;

c. Provide billing issue resolution and adjustments;

d. Assists project leader with administrative tasks involving planning alterations, openings, relocations, consolidations and/or removal of communications systems;

e. Schedules installation and testing with Third Parties and Authorized Users prior to cutovers;

f. Assists the focal point with operational and support groups for project implementation;

g. Participates in feasibility studies, costing and proposal preparation;

h. Provides training and assistance on new technology / telecom applications, systems, features and communication charges;

4. Service Desk – Level 1;

a. Provides Customer assistance with routine inquiries and problems such as software, hardware and network operations;

b. Respond to Customer inquiries and concerns, both with written correspondence and telephone contact;

c. Investigate, evaluate and resolve Customer issues, concerns or complaints that cannot be resolved during the initial Customer contact;

d. Provide feedback regarding case status to the Customer;

e. Problem ticket follow-up/tracking (Status, Customer Satisfaction Calls, Requests or Queries);

f. Enters information into problem tracking system for purposes of tracking each Customer issue;

g. Logs and tracks inquiries and compiles Customer service statistics;

h. Monitors Customer questions and complaints to ensure adherence to established Customer and Successful Respondent procedures;

5. Site Coordination;

a. Represents/manages multi-tenant sites;

b. Facilitates end user communication;

c. Monitors and provides support for most hardware resources;

d. Prepares business cases and appropriations requests;

e. Monitors and reports on operations/financial metrics;

f. Interfaces closely with process staffs to help them achieve their strategic plans and deployment initiatives;

6. Security/Disaster Recovery;

a. Assist in providing security consulting;

b. Act as a focal point for gathering audit comments and follow-up documentation;

c. Assist in providing vital records support;

d. Upon request, works with appropriate groups to acquire various security reports for to detect security violations;

e. Assist in providing disaster recovery support;

7. Facilities Management;

a. Assists in planning, scheduling, monitoring and reporting activities for facility projects;

b. Determines, monitors and reviews costs, operational budgets, schedules and staffing requirements for facility teams;

c. Provides assistance in facilitating status review meetings among team members and Customer;

8. Production Management;

9. Change Management - central deployment of system changes;

10. Problem Management – responding to inquiries for routine system issues;

11. Cycle Management – responding to routine mainframe batch issues;

12. Schedule Management – Assist in central deployment of changes to distributed cycle and mainframe batch cycle;

13. Management Reporting – Assist in statistical reporting of metric and operational performance data;

14. Maintenance Management – Assist in general deployment of maintenance services;

3.1.3   Examples of Operations Job Types

1. Asset Manager;
2. Service Desk Level I Operator;
3. Data Entry;
4. Print Distribution;
5. Inventory Specialist;
6. Communications Assistant;
7. Computer Operator;
8. Business Analyst;
9. Technical Analyst;
10. Technical Support Coordinator;

3.1.4   Education and Experience

College graduate or equivalent experience in business or associated field

3.2   Facilities Administration

3.2.1   Job Description

1. Manages the maintenance and operation of one or more facilities or properties;
2. Develops maintenance policy and procedures that ensure the optimal functioning of buildings, grounds, and associated equipment;
3. Includes management of all building systems including mechanical, electrical, plumbing, HVAC, safety, and waste management;
4. Manages and trains a staff of employees in the general maintenance of buildings, grounds, and equipment;
5. Additionally, Facilities Administration ensures facilities maintenance work follows safety standards, conforms to specifications, and that work orders are tracked and completed within the budgeted guidelines;
6. May oversee contractors engaged for facility renovation projects;

3.3   Technical Specialists

3.3.1   Job Description

1. Under general supervision, performs analytical, technical, and administrative work in the planning, design, development and implementation of new and existing personal computer systems;
2. Works on moderately complex applications;
3. Confers with end users to determine the types of hardware and software required;
4. Writes programs to fulfill requirements or selects appropriate off-the-shelf software and modifies, if necessary, to suit the requirements;
5. Trains end users in the use of the equipment and software;
6. Identifies data, analysis method and report format required to present and explain an issue, phenomenon or potential solution;
7. Plans, schedules and facilitates technical reviews as necessary;
8. Documents technical discussions, action plans and assignments;
9. Determines and report status of projects and assignments;
10. Collates, analyzes and publishes metrics;
11. Coordinates, allocates, tracks and refreshes IT assets, such as phones, cell phones or PCs;
12. Gathers/determines Customer requirements and requests IT assets/services using appropriate processes;

3.3.2   Job Qualifications

1. Must have an extensive knowledge of the product's practical and/or business use;

2. Must have advanced knowledge of the primary features, a solid understanding of the operating system(s) that the software runs on, as well as the ability to install, configure, set-up and migrate software;
3. Must have advanced knowledge of Customer's desktops, laptops, keyboards, printer plotters, modems and associated connections;
4. May have certification in production or technology;
5. Must have good oral and writing communication skills;
6. Ability to create and manipulate electronic databases;
7. Ability to take general direction and develop a work plan, including identification and retrieval of necessary information, data, required analysis method or technique and effective report format;
8. High level of interpersonal skills to work effectively in a team environment;
9. Effective communication and presentation skills;
10. Ability to create high-level presentations using the Microsoft suite of software;
11. Relatively high level of analytical ability where problems are complex;
12. Ability to organize, plan and document tasks;
13. Knowledge of technology in areas to which assigned;
14. Understanding of IT and technical jargon related to Customer;
15. Analytical ability where problems are somewhat complex;
16. Interpersonal skills to work with others;
17. Oral and written communication skills;
18. Knowledge of basic technology in area to which assigned;
19. Basic understanding of data processing concepts;
20. Ability to organize, plan and document tasks;
21. Self-starter; needs no or little supervision;

3.3.3   Education and Experience

Associate degree and three (3) plus years' experience or equivalent.

3.4   Junior Test Analyst

3.4.1   Job Description

1. Contribute to creation of test plans, test cases and prepare test environments;
2. Performing functional, application, and regression testing;
3. Creating and executing manual testing procedures;
4. Identifying, analyzing and reporting defects;

3.4.2   Job Qualifications

1. Familiar with standard concepts, practices and procedures within the testing field;
2. Understanding of the software development life cycle and software development methodologies;
3. Acquires and applies skills and knowledge through training and/or documentation;
4. Accepts changes in the Customer environment, organizational structure, direction or priorities;
5. Acquires knowledge of Customer's business in assigned area;
6. Acquires knowledge of Customer's industry;
7. Strong teamwork and interpersonal skills;
8. Strong written and oral communication skills;
9. Strong analytical skills;
10. Able to interpret requirement documents and able to update test documents accordingly;

3.4.3   Education and Experience

Bachelor's degree and up to three (3) years of experience or equivalent.

3.5 Training Specialists

3.5.1 Job Description

1. Plans, develops, and executes user training with Customer's Authorized User community, based on needs;
2. Schedules, delivers, and follows up on Customer training needs regarding specific products;
3. May serve as a subject matter expert to the Customer's Authorized User community;
4. Acts as the corporate training interface;
5. Maintains training database and documentation;

3.5.2 Job Qualifications

1. In-depth knowledge of products and/or services being delivered;
2. Ability to deliver material, to a broad range of users with a variety of skill sets, excellent communication skills and, knowledge of adult learning principles;
3. Utilizes productivity management principles to facilitate client training needs;
4. Familiar with the analysis, design, development and implementation of instructional courseware using instructional design standards;

3.5.3 Education and Experience

Bachelor's degree and two (2) plus years' experience or equivalent.

3.6 Technical Specialist Programming

3.6.1 Job Description

1. Analyzes conventional methods employed by the user for which computerization is recommended;
2. Develops problem definition and method/specifications for solution;
3. Locates system problems and recommends and implements solutions;
4. Develops detailed design and flow of system;
5. Codes, tests, debugs, implements and documents new programs;
6. Maintains, revises and documents changes to existing programs;
7. Keeps supervision and users advised of progress;
8. Frequent contact with others outside the work group;
9. Adheres to local security procedures;

3.6.2 Job Qualifications

1. Oral and written communications skills;
2. High level of sound logic and analytical ability where problems are unusual and difficult;
3. Attentiveness to detail and precision;
4. Good interpersonal skills to work effectively with others;
5. Strong knowledge of HTML, Web Development, Java Script, etc. and good Internet Explorer capabilities;
6. Strong knowledge of relational data bases with programming capability; able to create/modify queries, reports and visual basic modules to meet Customer requirements;
7. Ability to instruct Customer in database maintenance;

3.6.3 Education and Experience

Associate's Degree and three (3) plus years' experience or equivalent.

3.7 Associate Systems Engineer

3.7.1 Job Description

1. Possesses the technical skills necessary to participate in business systems development and maintenance processes using a systems methodology;
2. Identifies problems or business opportunities, defines the scope of the assigned task, and develops a plan to accomplish that task;
3. Utilizes technical skills, creativity and communication skills, with assistance from team members, to design and document a system that fulfills Customer requirements;
4. Meets team standards, and provides the flexibility to meet future Customer needs;
5. Interprets and modifies programs;
6. Develops test plans that address system design requirements, user test data, and issues concerning size and scope;
7. Addresses production support issues and providing feedback to the Customer;
8. Provides application programming/systems development and support for systems of low complexity;
9. Identifies data elements and processes using modeling and documentation techniques;
10. Documents controls, audit trails, security requirements, plans and decisions;
11. Estimates activities required to complete assignments for a specific task;
12. Follows a systems methodology when developing or supporting an application;
13. Participates in design walk-throughs;
14. Implements test plans, including the creation of test data and the verification of the test environment;
15. Maintains hardware and software in the production environment for assigned areas;
16. Executes assigned implementation and conversion plans;
17. Schedules and monitors the processing of production cycles;
18. Addresses production problems and makes changes to system functionality;
19. Captures metrics;

3.7.2 Job Qualifications

1. Is proficient in at least one programming language;
2. Acquires and applies skills and knowledge through training and/or documentation;
3. Uses prototyping skills when appropriate;
4. Accepts changes in the Customer environment, organizational structure, direction or priorities;
5. Acquires knowledge of the Customer's business in assigned area;
6. Acquires knowledge of the Customer's industry;
7. Assists in the cost/benefit analysis of alternative technical solutions;
8. Organizes, develops and delivers presentations;
9. Uses written communication to improve exchanges of information and relationships;
10. Maintains knowledge of current technology through available training and individual study;

3.7.3 Education and Experience

1. AS, BA, BS related degrees or equivalent experience;
2. A minimum of one (1) to two (2) years;

3.8 Documentation Specialist

3.8.1 Job Description

1. Develops, produces, and maintains a variety of complex technical and user documentation;
2. Plans and executes writing projects that need attention to complex technical content;

3. Provides effective and useful presentation of that content, and timely reporting of progress in meeting schedule milestones;
4. Complex knowledge and utilization of one (1) or more word processing tools;

3.8.2 Job Qualifications

1. Ability to determine project requirements, perform complex writing, copy editing, technical editing and documentation design activities;
2. Ability to create document structure and graphics at project level;
3. Must have good writing skills;
4. The ability to write consistent and clear documentation with the goal of explaining complex information simply and accurately;

3.8.3 Education and Experience

Bachelor's Degree and two (2) years' experience or equivalent.

3.9 Test Analyst

3.9.1 Job Description

1. Creating test plans, test cases and prepare test environments;
2. Performing moderately complex functional, application, and regression testing;
3. Planning and scheduling tasks to ensure that developed products meet business requirements and design specifications;
4. Creating and executing manual testing procedures;
5. Identifying, analyzing and reporting defects;

3.9.2 Job Qualifications

1. Ability to collaborate the client organization and 3rd party vendors;
2. Familiar with standard concepts, practices and procedures within the testing field;
3. Understanding of the software development life cycle and software development methodologies;
4. Acquires and applies skills and knowledge through training and/or documentation;
5. Accepts changes in the Customer environment, organizational structure, direction or priorities;
6. Acquires knowledge of the Customer's business in assigned area;
7. Acquires knowledge of the Customer's industry;
8. Strong teamwork and interpersonal skills;
9. Strong written and oral communication skills;
10. Strong analytical skills;
11. Proven problem-solving ability;
12. Able to work with Customer as needed during test cycle;
13. Able to interpret requirement documents and able to update test documents accordingly;

3.9.3 Education and Experience

Bachelor's degree and up to five (5) years' experience or equivalent.

3.10 Associate Business Systems Analyst

3.10.1 Job Description

1. Assists in planning and implementing computer systems;
2. Assists in coordinating of upgrades/enhancements to engineering business systems;
3. Assists in coordinating information activities as necessary with other departments and/or divisions;

4. Assists in coordinating projects and activities with Successful Respondent and Third Parties;
5. Uses and administers company technology practices, standards and procedures;
6. Assists in the assessment and documentation of business opportunities, benefits, risks, and success factors of potential applications;
7. Assists in eliciting and clearly defining and documenting, Customer needs and associated requirements;
8. Analyzes a variety of work processes and associated document and information flow;
9. Analyzes and documents logical relationships among the data, process or events;
10. Assists in implementing, new or enhanced applications into a production environment;
11. Assists in delivering new or enhanced applications utilizing a variety of formal methodologies and disciplines;

3.10.2   Job Qualifications

1. High level of sound logic and analytical ability where problems are unusual and difficult;
2. Highly developed oral and written communications skills;
3. High level of interpersonal skills to work effectively with others;
4. Experience with networked data management systems;
5. Knowledge and understanding of Information Technology industry trends, directions and market experience; ability to relate them to own organization;
6. Knowledge of emerging technologies (new to company systems as well as those that are new to the information systems industry);
7. Knowledge of tools, techniques and good practices for protecting the integrity of corporate data and associated processing, company technology practices, standards and procedures;
8. Familiarity with company's information architecture and information management methodologies;
9. Familiarity with the existing and planned software technology and the global, regional and local software architecture and infrastructure components;

3.10.3   Education and Experience

1. Technical undergraduate degree in math, computer science, engineering, or related discipline with an information technology focus;
2. Training in college level computer systems;

3.11   System Administration

3.11.1   Job Description

Role responsible for the administration of computer hardware and software in support of the delivery of an agreed IT service. Works on moderately complex applications.

3.11.2   Job Qualifications

1. Responsibility includes: incident handling, availability and performance monitoring, routine start-up and close-down, and the maintenance of operating plans and schedules;
2. The System Admin is responsible for effective provisioning, installation/configuration, operation, and maintenance of systems and software and related infrastructure;
3. This individual participates in technical research and development to enable continuing innovation within the infrastructure;
4. Responsibilities on these systems include operations and support, maintenance and research and development to ensure continual innovation;
5. This individual ensures that system hardware, operating systems, software systems, and related procedures;
6. Must have advanced knowledge of the primary features, a solid understanding of the operating system(s) that the software runs on, as well as the ability to install, configure, set-up and migrate software;

3.11.3 Education and Experience

1. Four (4) to seven (7) years of experience in the field or in a related area;
2. Familiar with standard concepts, practices, and procedures within a particular field;
3. Relies on limited experience and judgment to plan and accomplish goals;
4. A certain degree of creativity and latitude is required. Works under limited supervision with considerable latitude for the use of initiative and independent judgment;

3.12 Systems Engineer

3.12.1 Job Description

1. Has the experience and technical skills necessary to participate in the development and maintenance of business systems using a systems methodology;
2. Identifies problems or business opportunities;
3. Controls the scope of the systems development tasks, and supports the high-level project plan;
4. Generates and maintains estimates;
5. Converts Customer requirements and models from analysis, specifications and business needs, into technical specifications;
6. Uses the knowledge and experience from past technical environments and communication skills to design and document a system that will meet Customer requirements, team standards, and ensure the flexibility of future Customer needs;
7. Creates reusable code;
8. Documents and implements test plans that address system design requirements, user test data, and cases of appropriate size and scope;
9. Proactively addressing production support issues and providing recommendations for improvement;
10. Provides application programming/systems development and support for systems of medium complexity;
11. Develops and evaluates alternative system solutions to meet Customer requirements;
12. Competent in the use of modeling and documentation techniques;
13. Analyzes the Customer environment and new business requirements to define solutions that meet Customer needs and have the flexibility to accommodate future changes;
14. Recommends business system improvements;
15. Suggests and implements documents controls, audit trails, security requirements, plans and decisions;
16. Establishes target dates and goals;
17. Utilizes a systems methodology when developing or supporting systems development;
18. Participates in technical designs and walk-throughs;
19. Determines the impact of change on the Customer and system, and makes recommendations;
20. Modifies program logic involving multiple systems and subsystems;
21. Develops and implements test plans;
22. Identifies the impact of system software and hardware upgrades on the application and creates a test strategy;
23. Participates in implementation and conversion planning;
24. Applies knowledge and procedures to assist others in scheduling, production support and problem resolution;
25. Uses metrics to increase productivity;

3.12.2 Job Qualifications

1. Is proficient in one or more programming languages;
2. Understands and applies prototyping tools and processes;
3. Gains understanding of the Customer's business in assigned area;
4. Possesses knowledge of the Customer's industry;
5. Uses knowledge and experience to improve performance;
6. Participates in the cost/benefit analysis of alternative technical solutions;
7. Organizes, develops and delivers presentations for multiple levels of Customer;

8. Conducts training sessions for peers and Customer;
9. Controls and monitors team assignments;
10. Shares knowledge of current technology and methods with team and Customer;

3.12.3 Education and Experience

1. BA, BS related degrees or equivalent experience;
2. Bachelor's degree plus three (3) years' experience or at least one (1) year consulting experience with specialty in a highly complex system;

3.13 Data/Math Modeler

3.13.1 Job Description

Developing, testing, implementing and supporting data and math-based models which run in an inter-active environment.

3.13.2 Job Qualifications

1. Gains understanding of the Customer's business in assigned area
2. Possesses knowledge of the Customer's industry
3. Uses knowledge and experience to improve performance
4. Participates in the cost/benefit analysis of alternative technical solutions
5. Organizes, develops and delivers presentations for multiple levels of Customer
6. Controls and monitors team assignments

3.13.3 Education and Experience

Bachelor's degree and at least three (3) years of experience.

3.14 Infrastructure Administration

3.14.1 Job Description

1. Under general supervision, performs analytical, technical, and administrative work in the planning, design, development and implementation of new and existing personal computer systems;
2. Works on moderately complex applications;
3. Confers with end users to determine the types of hardware and software required;
4. Writes programs to fulfill requirements or selects appropriate off-the-shelf software and modifies, if necessary, to suit the requirements;
5. Trains end users in the use of the equipment and software;
6. Identifies data, analysis method and report format required to present and explain an issue, phenomenon or potential solution;
7. Plans, schedules and facilitates technical reviews as necessary;
8. Documents technical discussions, action plans and assignments;
9. Determines and report status of projects and assignments;
10. Collates, analyzes and publishes metrics;
11. Coordinates, allocates, tracks and refreshes IT assets, such as phones, cell phones or PCs;
12. Gathers/determines Customer requirements and requests IT assets/services using appropriate processes;

3.14.2 Job Qualifications

1. Must have an extensive knowledge of the product's practical and/or business use;
2. Must have advanced knowledge of the primary features, a solid understanding of the operating system(s) that the software runs on, as well as the ability to install, configure, set-up and migrate software;

3.   Must have advanced knowledge of Customer's desktops, laptops, keyboards, printer plotters, modems and associated connections;
4.   May have certification in production or technology;
5.   Must have good oral and writing communication skills;
6.   Ability to create and manipulate electronic databases;
7.   Ability to take general direction and develop a work plan, including identification and retrieval of necessary information, data, required analysis method or technique and effective report format;
8.   High level of interpersonal skills to work effectively in a team environment;
9.   Effective communication and presentation skills;
10.   Ability to create high-level presentations using the Microsoft suite of software;
11.   Relatively high level of analytical ability where problems are complex;
12.   Ability to organize, plan and document tasks;
13.   Knowledge of technology in areas to which assigned;
14.   Understanding of IT and technical jargon related to Customer;
15.   Analytical ability where problems are somewhat complex;
16.   Interpersonal skills to work with others;
17.   Oral and written communication skills;
18.   Knowledge of basic technology in area to which assigned;
19.   Basic understanding of data processing concepts;
20.   Ability to organize, plan and document tasks;
21.   Self-starter; needs no or little supervision;

3.14.3   Education and Experience

Associate's degree and three (3) plus years' experience or equivalent.

3.15   Performance / Automation Test Analyst

3.15.1   Job Description

1.   Responsible for testing a variety of programs and systems for compliance with non-functional requirements;
2.   Use of automation test tools and creation of small tools to automate manual test cases;
3.   Specifying overall approach to creating test data, and conditions for test scenarios;
4.   Preparing testing schedules and documents expected results; advising team on debugging aids available for environment;
5.   Ability to develop test scripts and utilize appropriate testing tools;
6.   Ability to prepare schedules, documentation and test data to simulate conditions;

3.15.2   Job Qualifications

1.   Ability to collaborate the client organization and 3rd party vendors;
2.   Familiar with standard concepts, practices and procedures within the testing field;
3.   Experience with use of performance test tools and automation test tools;
4.   Acquires and applies skills and knowledge through training and/or documentation;
5.   Accepts changes in the Customer environment, organizational structure, direction or priorities;
6.   Acquires knowledge of the Customer's business in assigned area;
7.   Acquires knowledge of the Customer's industry;
8.   Strong teamwork and interpersonal skills;
9.   Strong written and oral communication skills;
10.   Strong analytical skills;
11.   Proven problem-solving ability;
12.   Able to work with Customer as needed during test cycle;

13. Able to interpret requirement documents and able to update test documents accordingly;

3.15.3 Education and Experience

1. AS, BA, BS related degrees or equivalent experience;
2. A minimum of two (2) years of coding and/or performance/automation testing experience;
3. Communications industry knowledge/experience preferred;

3.16 Programmer Associate

3.16.1 Job Description

1. Develops program specifications/detail design documents;
2. Codes, tests, and debugs application programs;
3. Works under the direction of a team leader, senior technical leader or analysts;
4. Develops prototypes from functional specifications;
5. Designs application sub-systems and small systems;
6. Responsible for designing and building web pages using a variety of graphic software applications, techniques, and tools; designing and developing user interface features, site animation, and special-effects elements;
7. Contributing to the design group's efforts to enhance the look and feel of the organization's online offerings; designing the website to support the organization's strategies and goals relative to external communications;

3.16.2 Job Qualifications

1. Has participated in the application design of systems, including use of analytical techniques;
2. Demonstrates an understanding of object-oriented development tools and techniques;
3. Has worked on multiple platforms and/or with multiple methodologies;
4. Capable of basic HTML content management support;
5. Expert understanding of web-based technologies; a working, through knowledge of html, Photoshop Illustrator, and/or other design related application;

3.16.3 Education and/or Training

1. Trained in basic application development methods;
2. Familiarity with web basics through college courses or other computer related experience;
3. Bachelor's Degree;
4. Under five (5) years' experience;

3.17 Project Management Support

3.17.1 Job Description

1. Under general Designs, plans, and coordinates work teams;
2. Follows standard project management industry practices such as the PMI's framework;
3. Understands business and technical objectives of a project and works closely with project sponsor;
4. Develops detailed work plans, schedules, project estimates, resource plans, and status reports. Conducts project meetings and is responsible for project tracking and analysis. Ensure adherences to quality standards and reviews project deliverables;
5. Manages the integration of vendor tasks and tracks and reviews vendor deliverables. Provides technical and analytical guidance to project team. Recommends and takes action to direct the analysis and solutions of problems;

6. Communicates to client/vendors. Creates project charter and work plan and tracks budget and schedule progress via appropriate metrics. Establishes project organization and methodologies and defines roles and responsibilities. Documents risks and develops mitigation plans. Manages scope;

7. Creates and implements a communication plan. Builds an effective team, assigns tasks to team members, and evaluates outcomes. Negotiates resources;

8. Communicates to stakeholders and project sponsor. Identifies, tracks, and ensures resolution of issues and removal of barriers. Provides technical support to project team members. Handles complex application features and technical designs;

9. Designs and implements the components required for complex application features. Generally manages a group of applications systems analysts. Relies on experience and judgment to plan and accomplish goals. Professional certification is highly desirable;

3.17.2 Job Qualifications

1. Familiar with standard concepts, practices, and procedures within a particular field.
2. Relies on limited experience and judgment to plan and accomplish goals. A certain degree of creativity and latitude is required.
3. Works under limited supervision with considerable latitude for the use of initiative and independent judgment.

3.17.3 Education and Experience

1. Seven (7) years of experience in the field or in a related area;
2. Minimum of three (3) years of progressive broad-based information systems, system integration and project delivery experience. Experience working with external vendors and/or Quality Assurance efforts a plus;

3.18 Network Administration

3.18.1 Job Description

1. Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system;
2. Maintain network hardware and software;
3. Monitor network to ensure network availability to all system users and perform necessary maintenance to support network availability;
4. May supervise other network support and client server specialists and plan, coordinate, and implement network security measures;
5. Coordinate the development, implementation, and maintenance of a local area network or wide area network;
6. Maintains the network's physical and logical structures, including network connections;
7. Maintains network support software, analyzes user support statistics, and recommends appropriate measures;
8. Installs, tests, and maintains network hardware and software. Prepares and analyzes statistics on network utilization and availability;
9. Prepares training courses and provides user support and training in the use of available hardware, software, and utilities;
10. Performs tuning and capacity planning activities to enhance the performance of the network resources;

3.18.2 Job Qualifications

1. Familiar with standard concepts, practices, and procedures within a particular field;
2. Relies on limited experience and judgment to plan and accomplish goals;
3. A certain degree of creativity and latitude is required;
4. Works under limited supervision with considerable latitude for the use of initiative and independent judgment;

3.18.3 Education and Experience

Less than eight (8) years of experience in the field or in a related area.

3.19 Advanced Systems Engineer

3.19.1 Job Description

1. Applies principles, theories, and concepts, as well as expertise in related disciplines, to work activities and complex business systems;
2. Contributes to the understanding of new principles and concepts;
3. Leads systems development efforts that impact the Customer;
4. Advises, counsels and mentors Customer and team members on technical issues;
5. Improves strategic processes and direction, serves as a subject-matter expert;
6. Transfers knowledge base across lines of business;
7. Anticipates and resolves problems and advocates change;

3.19.2 Job Qualifications

1. Provides application programming/systems development and support for complex systems;
2. Provides technical solutions for technology planning;
3. Manages systems development efforts, including activities such as assigning tasks to co-workers, conducting project plan reviews, preparing systems development related documentation, and monitoring cost and resource estimates;
4. Conducts post-development reviews and disseminates findings;
5. Develops work breakdown structure for large systems development efforts;
6. Establishes target dates and goals;
7. Supports estimating, forecasting, budgeting, tracking, and control of economics;
8. Develops and delivers presentations as a technical expert;
9. Provides technical leadership for proposal efforts;
10. Prepares cost models for new business opportunities;
11. Plans and leads Customer requirements reviews;
12. Applies Third Party products, services, and processes pertinent to the Customer base;
13. Translates Customer requirements for Third Parties;
14. Coaches others in improving programming techniques, methodologies, and deliverables;
15. Facilitates analysis sessions across all levels of Customer;
16. Evaluates and recommends testing tools;
17. Mentors others in the configuration management process;
18. Analyzes measurement results to identify improvements to work practices;
19. Is proficient in two or more programming languages;
20. Applies business and industry knowledge to help anticipate the Customer's needs;
21. Recommends and implements changes to Customer processes;
22. Possesses knowledge of the Customer's industry;
23. Recommends, tests, and evaluates new tools and hardware;
24. Advocates and guides technology change;
25. Evaluates the viability of the schedule and updates it as the project progresses;
26. Defines and leads training sessions;
27. Implements measurement processes, and uses metrics to plan and control projects;
28. Demonstrates and advises on modeling techniques;
29. Mentors team and Customer current technology and methods;

3.19.3 Education and Training

1. Bachelor's Degree or equivalent experience;
2. Four (4) plus years' experience or equivalent;

3.20 Business Systems Analyst

3.20.1 Job Description

1. Establishes uses and supports integration and communications among, applications, databases and technology platforms;
2. Uses and administers company technology practices, standards and procedures;
3. Manages an inventory of technology related assets   hardware, software, application systems, databases, licenses, products;
4. Assists in the assessment and documentation of business opportunities, benefits, risks, and success factors of potential applications;
5. Elicits and clearly defines and documents Customer needs and associated requirements;
6. Analyzes a variety of work processes and associated document and information flow;
7. Analyzes and documents logical relationships among the data, process or events;
8. Defines and implements specific technical foundation for an application (software, data bases, and hardware);
9. Designs effective graphic user interface desktop workstation;
10. Implements new or enhanced applications into a production environment;
11. Delivers new or enhanced applications utilizing a variety of formal methodologies and disciplines;
12. May guide and advise less experienced business systems analysts;

3.20.2 Job Qualifications

1. High level of sound logic and analytical ability difficult;
2. Highly developed oral and written communications skills;
3. High level of interpersonal skills to work effectively with others motivate employee and elicit work output;
4. Ability to guide and advise less experienced business systems analysis personnel;
5. Knowledge and understanding of Information Technology industry trends, directions and market experience; ability to relate them to own organization;
6. Knowledge of architectural concepts, principles, and tools relevant to infrastructure, information, Applications, organizational structure, etc.;
7. Knowledge of emerging technologies (new to company systems as well as those that are new to the information systems industry);
8. Knowledge of tools, techniques and good practices for protecting the integrity of corporate data and associated processing, company technology practices, standards and procedures;
9. Familiarity with company's information architecture and information management methodologies;
10. Familiarity with the existing and planned software technology and the global, regional and local software architecture and infrastructure components;

3.20.3 Education and Experience

Bachelor's Degree and four (4) plus years' experience or equivalent.

3.21 Associate Business Process Engineer

3.21.1 Job Description

1. Identifies opportunities for business process improvement;
2. Investigates and evaluates potential business process improvement solutions;

---

3. Assists in defining business process improvement solutions while ensuring compliance with Customer IT standards;
4. Participates in implementing business process improvement recommendations that increase the use of shared common data and facilitates common processes across departments;
5. Aids other Customer process engineers to ensure integration of all processes;
6. Assists in identifying IT cost reduction opportunities associated with IT projects and/or support services;
7. Facilitates the definition of best in class business processes;
8. Assists in the implementation of cross function and/or cross sector business processes;
9. Incorporates a common process methodology in all re-engineering activity;
10. Maintains common process implementation metrics;
11. Supports the management of outsourced projects/outsourcer; ensures compliance to quality standards (cost, performance, time, defects);
12. Supports the prioritization of business requirements;

3.21.2 Job Qualifications

1. Highly developed oral and written communications skills;
2. High level of interpersonal skills to work effectively with others;
3. Strong analytical ability;
4. Creative problem solver in a team environment;
5. Sound business and technical judgment to advise the company on the risks and benefits associated with specific projects;
6. Familiarity with information systems and infrastructure in support of engineering, manufacturing, and general business processes;
7. Knowledge and understanding of IT industry trends, directions and market experience; ability to relate them to organization;
8. Knowledge of architectural concepts, principles and tools relevant to infrastructure, information, Applications, organizational structure, etc.;
9. Ability to establish, use and support integration and communications among applications, databases, and technology platforms;
10. Knowledge of activities, tasks, practices and tools associated with analysis of a variety of work processes and associated document and information flow;
11. Knowledge of process for evaluation and selection of products, tools, services and infrastructure components in line with company's business needs and architectural principles;

3.21.3 Education and Experience

1. Technical undergraduate degree in math, computer science, engineering, or related discipline with an information technology focus;
2. Background in major complex, process improvement activities;
3. Background in applying business process management techniques to re-engineer business processes;
4. Minimum three (3) years of consulting experience;

3.22 Project Manager I / Test Leads

3.22.1 Job Description

1. Applies advanced planning and scheduling techniques (WBS, OBS, CPM);
2. Performs schedule variance analysis;
3. Presents project status to the project team;
4. Develops templates;
5. Facilitates plan development;

6. Able to provide project management training;
7. Develops and documents basic project management processes and procedures;
8. Provides resource requirement planning;
9. Identifies issues and recommends alternate solutions;
10. Perform small-scale project management needs assessments;
11. Uses Customer methodologies to develop project plans;
12. Skilled defining project scope and requirements with the Customer;
13. In the case of Test Leads, Performing complex functional, application, regression and performance testing;

3.22.2 Job Qualifications

1. Effective oral and written communication skills;
2. High level of interpersonal skills to work effectively and motivate team members;
3. High degree of professionalism and integrity;
4. Ability to understand and translate Customer business requirements;
5. Analytical and creative ability where problems are extremely complex;
6. Typically has knowledge of 3 or more technical skill sets;
7. Knowledge of client's environment/needs and ability;
8. Ability to adapt to changing priorities, procedures or assignments. Ability to work efficiently without compromising quality;
9. Experience leading and motivating teams;
10. Capable of gaining a detailed understanding of the system being supported;
11. In the case of Test Leads, thorough understanding of testing processes, expertise in commonly used testing tools and extensive experience with testing complex applications;

3.22.3 Education and Experience

1. Bachelor's degree and/or five (5) years' equivalent work experience;
2. Three to five (3 to 5) years of Project Management and/or business experience;
3. Minimum of three (3) years' experience in Project Management;
4. Minimum of two (2) years' experience with Project Management systems/applications;
5. In the case of Test Leads, minimum of one (1) year experience as a test lead;

3.23 Database Administrator

3.23.1 Job Description

1. Assesses future information requirements to develop long-range, comprehensive database plans;
2. Develops policies and procedures designed to ensure the integrity of the database environment;
3. Develops and maintains routines to facilitate database use;
4. Keeps informed on latest developments in the database management field;
5. Plans and coordinates migration to new data management system software levels;
6. Assures that appropriate database management software is available and effectively used;
7. Determines, implements, and enhances standards on database security;
8. Promotes and recommends appropriate database software for new application systems;
9. Educates applications programmers about database concepts and efficient access techniques, and assists them in analysis and problem resolutions pertaining to database;
10. Performs database performance monitoring and implements efficiency improvements;
11. Designs or supervises the designing of the procedures necessary to save and recover databases from hardware and software failures;
12. Supervises the design and maintenance of database structures;
13. May supervise or train staff;

14. Performs related work as assigned;

3.23.2 Job Qualifications

1. Strong knowledge of database management systems, as well as data warehouse management and decision support tools;
2. Extensive experience in the development, implementation and maintenance of data warehouses and data marts is desired;
3. Ability to use data base access tools for application delivery;
4. Strong familiarity with analysis, planning and management reporting functions;
5. Well-developed oral and written communications skills;
6. Demonstrated leadership skills;
7. Strong teamwork and interpersonal skills;
8. Demonstrated ability to work independently and with others;
9. High level of creativity and innovation in problem solving;
10. Extremely high level of analytical ability where problems are very unusual and extremely difficult;
11. Understanding of benchmarking processes and techniques;
12. Very high level of interpersonal skills to work effectively with others, motivate employees, and elicit work output;

3.23.3 Education and Experience

1. Undergraduate degree required in math, computer science, engineering, or related discipline with an information technology focus (preferred);
2. MBA or advanced degree in MIS or Computer Science preferred;
3. Minimum ten (10) years' experience;

3.24 Database Analyst

3.24.1 Job Description

1. Assesses future information requirements to develop long-range comprehensive database plans;
2. Develops policies and procedures designed to ensure the integrity of the database environment;
3. Develops and maintains routines to facilitate database use;
4. Coordinates and supports migration to new data management system software levels;
5. Assures that appropriate database management software is available and effectively used;
6. Determines, implements, and enhances standards on database security;
7. Educates applications programmers about database concepts and efficient access techniques, and assists them in analysis and problem resolutions pertaining to database;
8. Performs database performance monitoring and implements efficiency improvements;
9. Designs and implements the procedures necessary to save and recover databases from hardware and software failures;
10. Supervises the design and maintenance of database structures;
11. Analyzes, designs, and implements databases;
12. Determines database storage requirements;
13. Develops and maintains data dictionary ensuring uniformity of definitions and sets standards for use of data dictionary;
14. Establishes and controls necessary database security;
15. Performs database performance monitoring and implements efficiency improvements;
16. Develops and maintains database access and update procedures to ensure the proper control of the databases;
17. Provides technical assistance to other systems personnel;

18. Recommends and executes the procedures necessary to save, retrieve, and recover databases from hardware and software failures within established procedures;

3.24.2 Job Qualifications

1. Knowledge of the principles, practices, and techniques of computer programming and systems design; of computer operations, systems, and procedures; of project control and cost estimating techniques; of computer programming languages; of data processing flowcharting techniques; of database structures and theories; of current database technologies; of data analysis techniques.;
2. Ability to use data base access tools for application delivery;
3. Strong familiarity with analysis, planning and management reporting functions;
4. Well-developed oral and written communications skills;
5. Strong teamwork and interpersonal skills;
6. High level of analytical ability where problems are very unusual and extremely difficult;

3.24.3 Education and Experience

Bachelor's Degree and four (4) plus years' experience or equivalent.

3.25 Programmer

3.25.1 Job Description

1. Knowledgeable about various SDLC methodologies and programming languages;
2. Responsible for coding of modules, ensure code developed meets coding standards and meets the identified requirements;
3. Helps in defining coding standards;
4. Assists junior programmers with their tasks and provides necessary coaching and guidance;
5. Responsible for designing, developing, troubleshooting, debugging, and implementing software code (such as HTML, CGI, and Javascripts) for a component of the website;
6. Working with graphic designers and other members of a project team to develop the site concept, interface design, and architecture of the website;
7. Responsible for the interface implementation;

3.25.2 Job Qualifications

1. Shows capabilities of performing team leader functions;
2. Develops and/or leads the development of prototypes;
3. Familiar with data modeling design and database concepts;
4. Familiarity with relational database technologies and capabilities;
5. Software knowledge, such as: Microsoft Visual InterDev, Adobe PhotoShop, Macromedia Fireworks, Microsoft Gif Animator, etc.;
6. Working knowledge with programming languages;
7. Working knowledge of web technology standards;

3.25.3 Education and Experience

Bachelor's Degree and four (4) plus years of programming experience or equivalent.

3.26 Solution Architect

3.26.1 Job Description

1. Performs the necessary leadership, analysis and design tasks related to the development of a solution architecture;

2. Analyzes business drivers to determine corresponding change requirements;
3. Designs and leads the implementation of solution architecture based on business requirement and IT strategies;
4. Defines the principles to guide solution decisions;
5. Coordinates solution architecture implementation and modification activities;
6. Facilitates and leads the evaluation and selection of software product standards, as well as the design of software configurations;
7. Consults with application or infrastructure development projects to fit systems or infrastructure to architecture;

3.26.2 Job Qualifications

1. Strategic business acumen and understanding of organization strategy and ability to design technology services to deliver that strategy;
2. Experience in assessing a broad range of technology solutions and products;
3. Excellent communication skills with ability to explain technical concepts to lay audiences;
4. Strong conceptual and analytical skills - demonstrating outside-the-box problem solving skills;
5. Team player with experience leading and collaborating cross-team to ensure successful delivery of solutions;
6. Working knowledge of infrastructure including servers, storage, firewalls, load balancers, routers, etc.;

3.27 Senior Systems Engineer

3.27.1 Job Description

1. Leads and develops technical and business systems related activities of major significance to the Customer;
2. Coaches and counsels project managers and Customer on technical solutions;
3. Responsible for assisting in the business proposal process;
4. Develops principles and concepts and innovative solutions for the Customer enterprise;
5. Develops/maintains depth and breadth across lines of business;
6. Regularly interacts with senior management/major Customer;
7. Interactions normally involve complex situations and/or influencing and persuading other strategic level managers;
8. Supervises a group of consultants/analysts engaged in specialized activities and services;
9. Sets technical direction for the project/application;
10. Provides program/project leadership for Customer solutions;
11. Engages in business development;
12. Develops communication plans for projects based on a systems view;
13. Teams with Customer to assess concerns/requirements and develops specific strategies;
14. Integrates interrelated projects and manages projects;
15. Leads technical planning process;
16. Defines consistent project management standards and procedures across the organization;
17. Employs consistent measurement techniques;
18. Informs Customer about emerging technologies and business implications based on the project and their overall business;
19. Develops intermediate and detailed schedules that support the high-level master schedule and understands the interrelationships among the various levels of schedules;
20. Develops alternative proposed project plans to support new business opportunities;
21. Develops project management deliverables required to support a request for proposal or quotation;
22. Evaluates Customer business, technical architecture processes, and objectives using the business enterprise models;
23. Leads in the application of the organizational change management process to facilitate a smooth Customer implementation;

3.27.2 Job Qualifications

1. Provides leadership and guidance to others when working with the Customer;
2. Understands the Customer's industry and is familiar with related industries;
3. Handles diverse, complex assignments concurrently;
4. Reviews project plans prepared by others in the organization;
5. Applies broad-based knowledge and experience to identify, evaluate and recommend new processes and tools;
6. Recommends appropriate technology for project tool selection;

3.27.3 Education and Experience

1. BA, BS, MS, MBA related degrees or equivalent experience;
2. Bachelor's degree and at least three (3) years of consulting experience, plus expertise with highly complex systems;

3.28 Project Manager II / Test Manager

3.28.1 Job Description

1. Responsible for project planning, project tracking, scope management, change control management, risk management, and quality assurance of the development project team;
2. Develop complex program Work Breakdown Structure (WBS);
3. Establishes organization-wide project management strategies;
4. Conducts complex program and project management assessments;
5. Exhibits strong leadership skills and leads project teams;
6. Manages the integration of project management within an organization resulting in culture change;
7. Develops project management training classes and programs;
8. Identifies new business opportunities;
9. Acquires Customer product and business process knowledge from domain experts and use the information in every aspect of leading analysis, design and implementation efforts;
10. Specifies requirements, scope level of effort, assess team member strengths and give work assignments with delivery dates in mind;

3.28.2 Job Qualifications

1. Proficient written and oral communication skills;
2. Identifies and recommends project management tools;
3. Identifies risk, provides analysis and contingency planning;
4. Creates detailed plans for consulting projects;
5. Writes design documents and specifications;
6. Technical mentoring and leadership skills;
7. Facilitates requirements definition sessions;
8. In the case of test manager, should have managed complex testing engagements;

3.28.3 Education and Experience

1. Bachelor's degree and at least three (3) years of experience in project management;
2. PMI Project Management Professional (PMP) certification preferred;
3. Minimum of three (3) years' experience with Project Management Systems/Applications;
4. Minimum of three (3) years' experience in information technology;
5. In the case of test manager, minimum one (1) year of experience managing testing engagement;

3.29 Business Process Engineer

3.29.1 Job Description

1. Directs/coordinates/supervises a group of employees engaged in consulting activities;
2. Identifies opportunities for business process improvement;
3. Investigates and evaluates potential business process improvement solutions;
4. Assists in defining business process improvement solutions while ensuring compliance with Customer's IT standards;
5. Participates in implementing business process improvement recommendations that increase the use of shared common data and facilitates common processes across departments;
6. Works with other Customer process engineers to ensure integration of all processes;
7. Assists in identifying IT cost reduction opportunities associated with IT projects and/or support services;
8. Communicates to all business process stakeholders;
9. Consults regarding business process engineering, process measurements, change management, education and training;
10. Facilitates the definition of best in class business processes;
11. Assists in the implementation of cross function and/or cross sector business processes;
12. Incorporates a common process methodology in all re-engineering activity;
13. Maintains common process implementation metrics;
14. Assists in the management of outsourced projects/outsourcer; ensures compliance to quality standards (cost, performance, time, and defects);

3.29.2 Job Qualifications

1. Highly developed oral and written communications skills;
2. Very high level of interpersonal skills to work effectively with others. Must have ability to bring large, diverse groups to consensus;
3. Strong analytical ability;
4. Creative problem solver in a team environment;
5. Sound business and technical judgment to advise the company on the risks and benefits associated with specific projects;
6. Familiarity with information systems and infrastructure in support of engineering, manufacturing, and general business processes;
7. Knowledge and understanding of IT industry trends, directions and market experience; ability to relate them to organization;
8. Knowledge of architectural concepts, principles and tools relevant to infrastructure, information, Applications, organizational structure, etc.;
9. Ability to establish, use and support integration and communications among applications, databases and technology platforms;
10. Knowledge of activities, tasks, practices and tools associated with analysis of a variety of work processes and associated document and information flow;
11. Knowledge of process for evaluation and selection of products, tools, services and infrastructure components in line with company's business needs and architectural principles;

3.29.3 Education and Experience

1. Advanced degree with at least five (5) years of consulting experience, or a bachelor's degree and at least eight (8) years consulting experience;
2. Minimum of two (2) to three (3) years of IT experience and participation in major complex, process improvement activities;
3. Background in applying business process management techniques to re-engineer business processes;

4.   MBA or advanced degree in MIS or Computer Science preferred;

3.30   Web Master

3.30.1   Job Description

1.   Maintains web systems, messaging and other distributed web systems;
2.   Responsible for communication between legacy, development and production servers;
3.   Performs usage monitoring and reporting;
4.   Implements code/change management policies and procedures;
5.   Provides construction, testing, implementation, and operations of web infrastructure systems based on defined technical architectures and solutions;
6.   Assist in the evaluation and testing of hardware, software, and network configurations based on Customer needs;
7.   Identifies, analyzes, and devises solutions to infrastructure system problems;
8.   Establish and maintain security and integrity standards and controls;
9.   Participates in web infrastructure implementations, upgrades, and conversions;
10.   Monitors web server load balancing and fault tolerance;
11.   Applies operational knowledge of web standards, web software and web applications framework;

3.30.2   Job Qualifications

1.   Experience with web-based standards and network technologies;
2.   Experience with maintenance of both legacy client servers and web servers;
3.   Experience in statistical web tools;
4.   Hardware knowledge: Cisco Routers, Cisco LocalDirector, Wintel servers, AS400 based hardware, Cisco switches, etc.;
5.   Programming language familiarity: C, Perl, Visual Basic, CFML, SQL, etc.;
6.   Expert understanding of web based technologies;
7.   A working, thorough knowledge of HTML & XML, PhotoShop, Illustrator, and/or other design related applications, etc.;

3.30.3   Education and Experience

Associate's degree and three (3) plus years' experience with web-based information management;

3.31   Web Security Administrator

3.31.1   Job Description

1.   Under limited supervision, performs all procedures necessary to ensure the safety of the organization's website and transactions across the internet;
2.   Applies Internet firewall technologies to maintain security;
3.   Ensures that the user community understands and adheres to necessary procedures to maintain security;

3.31.2   Job Qualifications

1.   Excellent planning skills;
2.   Expert knowledge of distributed system security software and web-based technology;
3.   Expert knowledge of encryption, firewall and access control technology and software;

3.31.3   Education and Experience

Associate's degree and three (3) plus years' experience or equivalent

3.32 Web Software Developer

3.32.1 Job Description

1. Designs, develops, troubleshoots, debugs, and implements software code (such as HTML, XML, CGI, Javascripts, etc.) for a component of the website;
2. Works with graphic designers and other members of a project team to develop the site concept, interface design, and architecture of the website;
3. Responsible for the interface implementation;
4. Complex knowledge and utilization of one (1) or more word processing tools;

3.32.2 Job Qualifications

1. Strong navigation and site design skills;
2. Expert understanding of web-based technologies;

3.32.3 Education and Experience

Bachelor's degree in computer science and two (2) years' developmental experience in web-based languages.

3.33 Senior Business Systems Analyst

3.33.1 Job Description

Senior Business Systems Analyst

3.33.2 Job Qualifications

1. Extremely high level of sound logic and analytical ability where problems are very unusual and difficult;
2. Highly developed oral and written communication skills;
3. Very high level of interpersonal skills to work effectively with others, motivates employees, and elicits work output;
4. Ability to lead, manage, plan, and direct the work of business systems analysis personnel;
5. Knowledge and understanding of Information Technology industry trends, directions and market experience; ability to relate them to own organization;
6. Knowledge of architectural concepts, principles, and tools relevant to infrastructure, information, Applications, organizational structure, etc.;
7. Familiarity with company's information architecture and information management methodologies;

3.33.3 Education and Experience

1. Advanced degree with at least five (5) years of consulting experience, or a bachelor's degree and at least eight (8) years of consulting experience, plus expertise in complex systems.;
2. Training in college level computer systems preferred;
3. MBA or equivalent training preferred;
4. Project Management Certification preferred;

3.34 Infrastructure Architect

3.34.1 Job Description

1. Ensures implementation of hardware and software meets the company's technology infrastructure design and architecture;
2. Ensure adherence to Customer's infrastructure architecture for wide area, campus, and local area networks is adhered;

3.   Defines requirements for products that support applications and the infrastructure consistent with Customer provided guidelines;

4.   Manages process to ensure product release, applications, and corporate block point cycles are synchronized;

5.   Provides interface for strategy and direction with technology providers;

6.   Evaluates emerging technologies and standards for impact on Customer;

7.   Plans and executes software and hardware platform changes with minimal disruption in service to the Customer;

8.   Defines performance metrics and measurement tools;

9.   Manages network management architecture activities;

10.   Performs technology benchmarking;

11.   Follows corporate level guideline documentation and provides input on their upkeep;

3.34.2   Job -Qualifications

1.   Well-developed oral and written communications skills;

2.   Strong teamwork and interpersonal skills;

3.   Demonstrated ability to work independently and with others;

4.   High level of creativity and innovation in problem solving;

5.   Extremely high level of analytical ability where problems are very unusual and extremely difficult;

6.   Understanding of benchmarking processes and techniques;

7.   Ability to effectively manage changes to the production environment and technology-based assets of the project (i.e., applications software, production databases, operating systems hardware and software, etc.);

3.34.3   Education and Experience

1.   Undergraduate degree required in math, computer science, engineering, or related discipline with an information technology focus (preferred);

2.   MBA or advanced degree in MIS or Computer Science preferred;

3.35   Project Manager III/Test Program Manager

3.35.1   Job Description

1.   Responsible for program oversight, planning, program tracking, scope management, change control management, risk management, and quality assurance of the development project team;

2.   Assist in development and support of the vision and business objectives of the organization;

3.   Direct the activities of resources in line with business objectives of the organization;

4.   Ensure quality and timely delivery of critical path products and services;

5.   Establish and maintain quality metrics and guidelines;

6.   Implement process and system improvements including integration with other functional areas;

7.   Translate organization's business requirements into effective business solutions;

3.35.2   Job Qualifications

1.   Develops and maintains long-term relationships with strategic Customer and industry leaders;

2.   Adept at the development of schedule, cost, and risk management strategies;

3.   Experienced implementing project management within various Customer organizations and environments;

4.   In the case Test Program Manager, should have managed complex testing engagements;

3.35.3   Education and Experience

1.   Individual must have a bachelor's degree and at least twelve (12) years of experience and experience in implementing global projects, OR

2.   An advanced degree with at least ten (10) years of consulting experience and experience in implementing global projects in IT industry, PMI Project Management Professional (PMP) certification preferred;

3.   Minimum of seven (7) years' business/industry knowledge;

4.   Minimum of five (5) years' experience with Project Management systems/Applications;

5.   Minimum of five (5) years' experience in Information Technology;

3.36   Senior Business Process Engineer

3.36.1   Job Description

1.   Identifies opportunities for business process improvement;

2.   Drives business process innovation;

3.   Investigates and evaluates potential business process improvement solutions;

4.   Justifies expenditures in support of business process improvement solutions;

5.   Defines business process improvement solutions while ensuring compliance with Customer IT standards;

6.   Directs and implements business process improvement recommendations that increase the use of shared common data and facilitates common processes departments;

7.   Works with process engineers to ensure integration of all processes;

8.   Identifies IT cost reduction opportunities associated with IT projects and/or support services;

9.   Communicates to all business process stakeholders;

10.   Consults regarding business process engineering, process measurements, change management, education and training;

11.   Facilitates the definition of best in class business processes;

12.   Assists in the implementation of cross function and/or cross sector business processes;

13.   Incorporates a common process methodology in all re-engineering activity;

14.   Develops common process implementation metrics;

15.   Directs the management of outsourced projects/outsourcer; ensures compliance to quality standards (cost, performance, time, and defects);

3.36.2   Job Qualifications

1.   Highly developed oral and written communications skills;

2.   Very high level of interpersonal skills to work effectively with others. Must have ability to bring large, diverse groups to consensus;

3.   Demonstrated logic and analytical ability;

4.   High level of creativity and innovation in problem solving in a team environment;

5.   Seasoned business and technical judgment to advise the company on the risks and benefits associated with specific projects;

6.   Familiarity with information systems and infrastructure in support of engineering, manufacturing, and general business processes;

7.   Knowledge and understanding of IT industry trends, directions and market experience; ability to relate them to organization;

8.   Knowledge of architectural concepts, principles and tools relevant to infrastructure, information, Applications, organizational structure, etc.;

9.   Knowledge of emerging technologies (new to company systems as well as those that are new to the information systems industry);

10.   Ability to establish, use and support integration and communications among applications, databases and technology platforms;

11.   Knowledge of activities, tasks, practices and tools associated with analysis of a variety of work processes and associated document and information flow;

12.   Knowledge of process for evaluation and selection of products, tools, services and infrastructure components in line with company's business needs and architectural principles;

3.36.3   Education and Experience

Advanced degree with at least six (6) years' consulting experience, or a bachelor's degree and at least eight (8) years' consulting experience, plus expertise in highly complex system(s).

3.37   Data Analyst

3.37.1   Job Description

1. Consults with internal and external customers to identify user needs;
2. Analyzes data using standard statistical tools, methods, and techniques;
3. Identifies data gaps, errors, anomalies, inconsistencies, and redundancies by analyzing the content, structure, and relationships within data;
4. Identifies and interprets data patterns and trends and assesses data quality;
5. Cleans and prunes data to discard irrelevant information;
6. Prepares concise, comprehensive technical reports to present and interpret data, identify alternatives, and make and justify recommendations on data revisions;

3.37.2   Job Qualifications

1. Knowledge of statistics and analyzing data sets;
2. Knowledge of running queries, report writing, and presenting findings;
3. Knowledge of data models, database design development, data mining, and segmentation techniques;
4. Knowledge of record keeping, including security procedures for handling, protecting and distribution confidential data;

3.37.3   Education and Experience

1. Experience in data analysis, research, compilation, and/or reporting work;
2. Graduation from an accredited four-year college or university with major coursework in data science, business analytics, computer science, computer information systems, management information systems, accounting, finance, mathematics, statistics, economics, or a related field is generally preferred;

3.38   Application Architect

3.38.1   Job Description

1. Responsible for acting as a recognized expert in translating operational business needs through developing and implementing the information technology architecture and design for a system, with specialty in a complex system(s);
2. Developing physical system architecture that provides the foundation for design, construction, testing, and deployment;
3. Utilized Customer provided architecture guidelines and strategies to transform logical models into physical architectures and designs;
4. Designing and addressing key architecture considerations for the system;
5. Developing physical models that balance and integrate the data, processing, and technology aspects of the architecture;
6. Resolving issues regarding technology components responsible for performing functional capabilities, or determining how technologies will communicate when responsibility must be shared across technologies;
7. Publishing, updating and ensuring that the architecture models meet business requirements and architecture standards;

3.38.2   Job Qualifications

1. Familiar with systems development processes and methodologies;
2. Ability to lead and facilitate cross-functional, multi-Service Provider work teams;
3. Familiarity with relational database technologies and capabilities;
4. Knowledge of the company's industry group, trends, directions, major issues, regulatory considerations and trendsetters;
5. Ability to justify project, equipment or staffing expenditures by identifying, cost, benefits and associated risks;
6. Knowledge of internet-/intranet- based opportunities and challenges;
7. Ability to work with others in a constructive and collaborative manner;
8. Ability to think critically; to recognize and anticipate a problem (technical, operational, process, organizational) and to identify and implement the best solution in a timely manner;
9. Excellent written and oral presentation skills;
10. Knowledge and understanding of marketplace experience, developments and trends related to the Information Technology function;
11. Knowledge of emerging technologies (new to company systems as well as those that are new to the information systems industry);
12. Familiarity with company's information architecture and information management methodologies;
13. Experience with scalability and performance issues related data bases;

3.38.3   Education and Experience

1. Undergraduate degree required in math, computer science, engineering, or related discipline with an information technology focus (preferred);
2. MBA or advanced degree in MIS or computer science preferred;
3. Industry Certifications in an area of expertise preferred;

3.39   Senior Manager

3.39.1   Job Description

1. Identifies and communicates opportunities for business process improvement;
2. Drives business process innovation;
3. Investigates and evaluates potential business process improvement solutions;
4. Justifies expenditures in support of business process improvement solutions;
5. Defines business process improvement solutions while ensuring compliance with Customer IT standards;
6. Directs and implements business process improvement recommendations that increase the use of shared common data and facilitates common processes departments;
7. Identifies IT cost reduction opportunities associated with IT projects and/or support services;
8. Communicates to all business process stakeholders;
9. Consults regarding business process engineering, process measurements, change management, education and training;
10. Facilitates the definition of best in class business processes;
11. Assists in the implementation of cross function and/or cross sector business processes;
12. Incorporates a common process methodology in all re-engineering activity;
13. Directs the management of outsourced projects/outsourcer; ensures compliance to quality standards (cost, performance, time, and defects);

3.39.2   Job Qualifications

1. Highly developed oral and written communications skills;

2. Very high level of interpersonal skills to work effectively with others. Must have ability to bring large, diverse groups to consensus;

3. Demonstrated logic and analytical ability;

4. High level of creativity and innovation in problem solving in a team environment;

5. Seasoned business and technical judgment to advise the company on the risks and benefits associated with specific projects;

6. Familiarity with information systems and infrastructure in support of engineering, manufacturing, and general business processes;

7. Knowledge and understanding of IT industry trends, directions and market experience; ability to relate them to organization;

8. Knowledge of architectural concepts, principles and tools relevant to infrastructure, information, Applications, organizational structure, etc.;

9. Knowledge of emerging technologies (new to company systems as well as those that are new to the information systems industry);

10. Ability to establish, use and support integration and communications among applications, databases and technology platforms;

11. Knowledge of activities, tasks, practices and tools associated with analysis of a variety of work processes and associated document and information flow;

12. Knowledge of process for evaluation and selection of products, tools, services and infrastructure components in line with company's business needs and architectural principles;

3.39.3   Education and Experience

Advanced degree with at least eight (8) years of consulting experience, or a bachelor's degree and at least ten (10) years' consulting experience, and experience in implementing global projects in the retail and or healthcare industry.

3.40   Senior Web Architect

3.40.1   Job Description

1. Analyzes Customer business objectives, processes and architecture and recommends strategic architecture direction consistent with Customer provided guidelines;

2. Provides direction on business object and component framework architecture;

3. Provides top level strategic input in relation to on-line implementation, industry, and market analysis;

4. Provides framework and assists in business impact analysis and business case development;

5. Provides framework and assists in product selections;

6. Provides enterprise architecture guidance and relations in a multi-Service Provider environment;

7. Applies experience with electronic commerce (Internet based business) and impact of the Internet on traditional business;

3.40.2   Job Qualifications

1. Demonstrated experience with market analysis, ROI, ROA, electronic commerce, (Internet based business) and impact of the Internet on traditional business;

2. Knowledge of retail and/or healthcare industry, supply chain, and consumer issues and trends;

3. Experience defining business issues and opportunities as well as developing on-line business strategies, plans, and processes;

4. Understanding of business object and component framework architecture;

5. Experience leading and facilitating web strategy and planning;

6. At least two enterprise enabling projects;

7. End-to-end comprehension of web standards, software and web applications framework;

3.40.3 Education and Experience

1. Bachelor's degree and six (6) plus years of experience or equivalent;
2. Four (4) years of experience developing technology/creative business cases;
3. Two (2) years of experience in online business case analysis and development;

3.41 Data Engineer

3.41.1 Job Description

1. Develop, construct, test and maintain architectures, such as databases and large-scale processing systems;
2. Recommend and implement mechanisms to improve data reliability, efficiency, and quality;
3. Enable the unification of disparate data sets through various languages and tools in preparation for information correlation by data scientists;
4. Provide effective data architectures to support the needs of data scientists, stakeholders and business environments;
5. Enable integration capabilities for external tools to perform ingestion, compilation, analytics and visualization;

3.41.2 Job Qualifications

1. Ability to define and manage data flows and data pipelines with related scripting knowledge for importing;
2. Strong data modeling capabilities;
3. Ability to identify and implement the most appropriate data management system;
4. Provide high quality clean and usable data from data sets of varying states of disorder;
5. Data/Query validation proficiency;
6. Demonstrate a wide range of technical competencies including: SAP, Oracle, Cassandra, MySQL, Redis, Riak, PostgreSQL, MongoDB, neo4j, Hive, and Sqoop;

3.41.3 Education and Experience

1. Bachelor's degree in statistics, math, computer science, or engineering;
2. Five (5) to seven (7) years of Data Engineering or related technical experience;

3.42 Senior Application Architect

3.42.1 Job Description

1. Assess business requirements;
2. Analyze and design technology approaches and develop global architectures and technology solutions;
3. Research, assess, analyze and recommend Customer Enterprise Architecture standards and ensure their use (i.e., web search engines, trend analysis and forecasting tools, content management systems, document management systems, application development tools, business and object modeling tools, application servers);
4. Provides interface for strategy and direction with technology providers;
5. Evaluates emerging technologies and standards for impact on Customer;
6. Performs the role of technical lead for large application development projects;
7. Manage iterative software development processes with a focus on application and infrastructure architecture;
8. Provide guidance and technical direction to team members, including training materials and presentations on relevant products and/or technologies consistent with Customer provided guidelines;
9. Review, recommend, and provide corrective action plans as required from a technical perspective;
10. Review and approve Successful Respondent designed technical solutions against defined Customer standards;

3.42.2   Job Qualifications

1. Knowledge of the company's industry group, trends, directions, major issues, and regulatory considerations preferred;
2. Ability to justify project, equipment or staffing expenditures by identifying cost, benefits and associated risks;
3. Knowledge of internet/intranet-based opportunities and challenges;
4. Competency in multiple internet/intranet technologies;
5. Ability to work with others in a constructive and collaborative manner;
6. Ability to think critically; to recognize and anticipate a problem (technical, operational, process, organizational) and to identify and implement the best solution in a timely manner;
7. Excellent written and oral presentation skills;
8. Ability to work effectively as part of a team;
9. Ability to lead multiple Service Provider teams to a technical solution;
10. Knowledge and understanding of marketplace experience, developments and trends related to the Information Technology function;
11. Knowledge of mainstream technologies and architectures;
12. Knowledge of emerging technologies (new to company systems as well as those that are new to the information systems industry);
13. Competency in core technologies, including open standards, database, and integration technologies;
14. Competency in one or more emerging technologies;
15. Familiarity with company's information architecture and information management methodologies;

3.42.3   Education and Experience

Advanced degree with at least ten (10) years of consulting experience, or a bachelor's degree and at least twelve (12) years consulting experience, and experience in implementing global projects in the retail and/or healthcare industries.

3.43   Creative Director

3.43.1   Job Description

1. Creative direction & management of Site and/or Authorized User interface;
2. Performing creative planning, developing, strategy, and execution on projects;
3. Overseeing graphic production and brand character;
4. Developing and working with Customer to portray appropriate design of the project to communicate with target audience;

3.43.2   Job Qualifications

1. Provides creative direction, management, workflow and project plan development;
2. Coordinates the overall creative direction of the web site in conjunction with the Customer's business and technical objectives;
3. Ensures adherence to project metrics for tracking and improvement;
4. Is proficient in multimedia tools and techniques as well as in traditional creative techniques;
5. Understands web-based capabilities and limitations;
6. Has demonstrated experience in project and departmental management;

3.43.3   Education and Training

1. Bachelor of Arts degree or higher in fine arts;
2. Software knowledge: Adobe PhotoShop, Adobe Illustrator, Adobe Acrobat, Adobe Premiere, Adobe After Effects, Macromedia Fireworks, QuarkXpress/ PageMaker, and project management software (MS Project);

3.43.4 Experience

1. Four (4) years in creative management and project development;
2. Two (2) years in web based creative project management;

3.44 Data Scientist

3.44.1 Job Description

1. Identifying the data-analytics problems that offer the greatest opportunities to the organization;
2. Determining the correct data sets and variables;
3. Collecting large sets of structured and unstructured data from disparate sources;
4. Cleaning and validating the data to ensure accuracy, completeness, and uniformity;
5. Devising and applying models and algorithms to mine the stores of big data;
6. Analyzing the data to identify patterns and trends;
7. Interpreting the data to discover solutions and opportunities;
8. Communicating findings to stakeholders using visualization and other means;

3.44.2 Job Qualifications

1. Utilize analytical, statistical, and programming skills to collect, analyze, and interpret large data sets;
2. Use related information to develop data-driven solutions to difficult business challenges;
3. Understand and implement statistical models;
4. Data/Query Validation proficiency;
5. Demonstrate a wide range of technical competencies including: statistics and machine learning, coding languages, databases, machine learning, and reporting technologies;

3.44.3 Education and Experience

1. Bachelor's degree in statistics, math, computer science, or economics or similar;
2. Five (5) to seven (7) years of Data Science or related technical experience;

3.45 Business Consultant

3.45.1 Job Description

1. Devise approach to solving complex problems;
2. Manage conflicting stakeholder expectations;
3. Manage project scope;
4. Refocus efforts as issues/problems dynamically change in Customer environment;
5. Design and conduct workshops;
6. Identify the appropriate approach, tools and methodologies to perform analysis and draw conclusions;
7. Full leadership for managing delegated end-to-end creation of project deliverables;
8. Help team to develop new insights from the analysis;
9. Prioritize the recommendations based on ease of implementation and impact;
10. Provide ongoing updates to Customer on engagement status;
11. Solicit feedback on interim deliverables;
12. Manage project escalations;
13. Manage engagement financials - revenue and profitability;
14. Provide subject matter expertise on a specific area within a domain/technology/service;
15. Exhibit high level of skills in data aggregation and analysis leading to development of value proposition in solution development;

3.45.2 Job Qualifications

1. Expertise in communications domain;
2. Expertise in identifying and defining problems, analysis and developing recommendations;
3. Extensive experience managing consulting engagements;
4. Specialist in managing the engagement financials and operations;
5. High level of ethics, judgment, communication and people skills;

3.45.3 Education and Experience

Three (3) to six (6) years of management and technology consulting experience;

3.46 Business Intelligence Analyst (BIA)

3.46.1 Job Description

1. Use comprehension of data gathering and analytics to develop knowledge with relevant business intelligence;
2. Enable complex reporting based on existing data;
3. Use resulting information to identify and develop opportunities for new services and solutions;
4. Interact with business leadership to help guide the growth and maturity of business capabilities;
5. Adapt the presentation of data to most effectively communicate the pointed value and change for business improvement;

3.46.2 Job Qualifications

1. Highly developed oral and written communication skills;
2. Very high level of interpersonal skills to work effectively with others, motivates employees, and elicits work output;
3. Ability to lead, manage, plan, and direct the work of business systems analysis personnel;
4. Understanding of statistical models;
5. Data/Query Validation proficiency;
6. Ability to quickly develop a deep understanding of multiple, major components of the business enterprise;
7. Ability to direct and coordinate the development and implementation of process-based solutions that cross organizational lines;
8. Creates business case for investments in process and technological enhancements. Sets clear explanations for the integration and alignment of technology and business functions, focusing on the strategic value provided;

3.46.3 Education and Experience

1. Bachelor's degree in business, management, accounting, economics, statistics, information science or similar. Master's degree in business administration (MBA) preferred;
2. Five (5) to seven (7) years of Business Analysis or related technical experience;

3.47 Senior Business Consultant

3.47.1 Job Description

1. Gain deep insights into Customer issues and potential risks based on subject matter expertise;
2. Devise approach to solving complex problems;
3. Exhibit intellectual leadership to the problem-solving effort
4. Manage conflicting stakeholder expectations;
5. Leverage experience/ learning from similar engagements;
6. Administer and monitor client feedback survey;
7. Represent Successful Respondent in external forums;

8. Champion knowledge asset creation within the consulting organization by creating a participative environment;
9. Forge partnerships with external sources for knowledge acquisition;
10. Provide thought leadership in project;
11. Validate and ensure the recommendations are high impact and reflect deep insight;
12. Manage project scope;
13. Refocus efforts as issues/problems dynamically change in client environment;
14. Conduct training sessions on consulting, functional area, key trend etc.;
15. Design and conduct workshops;
16. Identify the appropriate approach, tools and methodologies to perform analysis and draw conclusions;
17. Full leadership for managing delegated end-to-end creation of project deliverables;
18. Help team to develop new insights from the analysis;
19. Prioritize the recommendations based on ease of implementation and impact;
20. Provide ongoing updates to Customer on engagement status;
21. Solicit feedback on interim deliverables;
22. Manage project escalations;
23. Manage engagement financials - revenue and profitability;
24. Provide subject matter expertise on a specific area within the domain/technology/service;
25. Exhibit high level of skills in data aggregation and analysis leading to development of value proposition in solution development;

3.47.2 Job Qualifications

1. High level of expertise in communications domain;
2. Expertise in identifying and defining problems, analysis and developing recommendations;
3. Extensive experience managing consulting engagements;
4. Specialist in managing the engagement financials and operations;
5. High level of ethics, judgment, communication and people skills;

3.47.3 Education and Experience

Six (6) to nine (9) years of management and technology consulting experience;